


FEASIBILITY STUDY

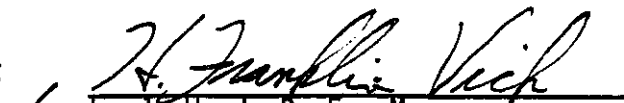
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US 21-NC 115, Troutman,
From Cedar Lane Avenue to Barium Springs,
Iredell County,
R-2522

Prepared by
Planning and Environmental Branch
Division of Highways
N. C. Department of Transportation


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9/24/96
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I. DESCRIPTION

This report covers a preliminary study of the proposed upgrading of the subject road to a multi-lane facility. As shown on the attached maps (Figures 1 and 2), this study extends from Cedar Lane Avenue in Troutman to SR 1336 in Barium Springs. The project is approximately 1.6 miles in length, and appears in the 1990-1996 Transportation Improvement Program (T.I.P.). It is scheduled for feasibility study and/or right-of-way protection, and is not currently funded.

II. PURPOSE OF PROJECT

Existing Route Characteristics

US 21-NC 115 is the primary route in Troutman, and serves as a parallel north/south route to I-77 in southern Iredell County.

US 21-NC 115 through the Troutman area is predominantly a 2-lane road with 22-foot pavement and variable 3 to 5-foot unpaved shoulders. Near SR 1005, the pavement has been widened for a short length to three lanes to accommodate left turns.

Between SR 2551 and the southern end of the project, US 21-NC 115 is roughly paralleled by SR 2371. The distance between the edges of the pavement of these roads varies between 38 and 77 feet. The area between these roads was formerly occupied by a Southern Railway track. SR 2371 is a 2-lane facility with a 20-foot pavement width and minimal unpaved shoulders. The elevation differential between this road and US 21-NC 115 varies moderately along the length, and cross connections exist at Morgan, Johnson, East Church, and Rumble Streets.

US 21-NC 115 is constructed through rolling terrain and has generally good horizontal alignment. Speed limit on the route is 35 mph. There are two signals on the route located at SR 1005 and SR 1303. There are no bridges on the project.

Development along US 21-NC 115 is primarily a mixture of small commercial and residential. Existing right-of-way on the route varies from 34 to 50 feet.

Traffic Volumes, Capacity, and Accident Record

Current traffic volumes on US 21-NC 115 in the project area range from approximately 8000 vehicles per day (vpd) south of the project to approximately 11,500 vpd near Barium Springs. It is estimated that these volumes will increase to approximately 12,000 and 19,000 vpd respectively by the year 2010.

Accident data for a recent three-year period indicates a total of 22 accidents on the project length, yielding a total accident rate of 85.77 accidents per hundred million vehicle miles (ACC/100MVM). This is much less than the statewide average of 188.0 ACC/100MVM for similar 2-lane US routes. The predominant accident types were rear-end, left-turn, and angle collisions (27% each).

Present capacity along the two-lane facility is approximately 9,000 vpd.

Need for Project

The studied two-lane section of US 21-NC 115 will be operating under a serious capacity deficiency in the future. The north end of the project is currently over capacity. Additional lanes are needed to eliminate the capacity deficiency. Additionally, widening of this project could potentially relieve a portion of traffic currently utilizing I-77.

III. RECOMMENDATIONS AND COSTS

The recommended improvements consist of multi-laning the entire project length. It is recommended asymmetrical widening to a 64-foot, 5-lane cross section be constructed from Cedar Lane Avenue to SR 1303 (Wagner Street), and from SR 2551 to SR 1336 (Barium Springs). Between SR 1303 and SR 2551, development of a 4-lane divided or one-way system utilizing US 21/NC 115 and SR 2371 is recommended to minimize project costs. SR 2371 can be upgraded to serve as the northbound lanes, while US 21-NC 115 can be minimally improved to serve the southbound traffic. Transitioning between the differing cross sections would be accomplished near SR 1303 and SR 2551. Recommended cross section for the one-way pair is 24-foot pavement with adequate shoulders. Left-turn lanes should be provided at appropriate locations of existing crossroads and median openings.

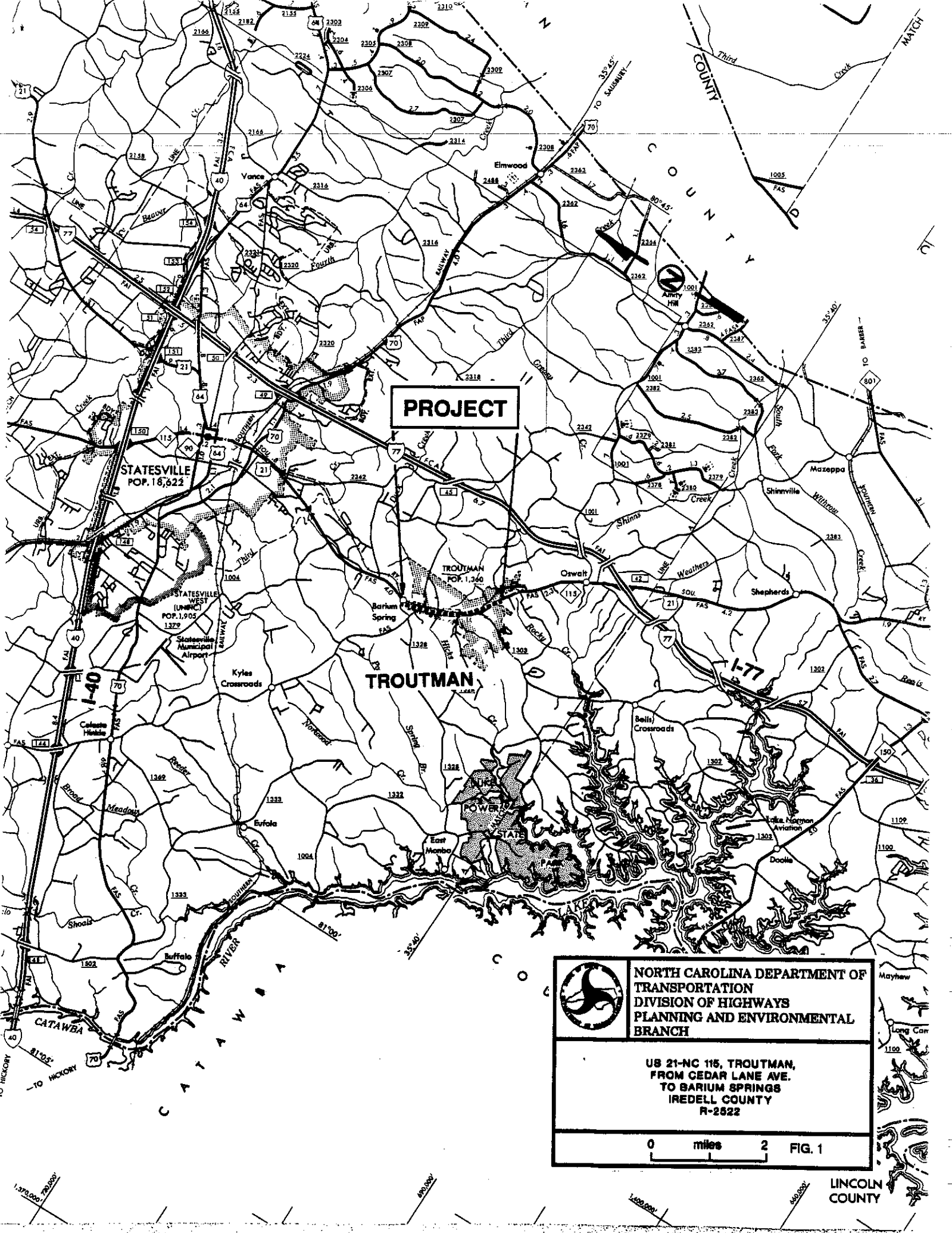
The total estimated cost of the recommended improvements is \$2,000,000 including \$ 1,825,000 for roadway construction, and \$175,000 for right-of-way. For cost estimating purposes, on the sections where 5-lanes are recommended, 90 feet of right-of-way was estimated, offset towards the abandoned railway. No additional right-of-way is needed on the section where a one-way system is recommended. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

IV. OTHER COMMENTS

Negative environmental impacts of the project are increased noise levels for the roadside development.

If this project is to be implemented at a future date, all feasible alternatives and their associated impacts will have to be evaluated in a planning and environmental document prior to that time, and a final decision made as to the most appropriate improvement.

MH/plr



PROJECT

TROUTMAN



**NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL
BRANCH**

**US 21-NC 115, TROUTMAN,
FROM CEDAR LANE AVE.
TO BARIUM SPRINGS
IREDELL COUNTY
R-2622**

0 miles 2 FIG. 1

**LINCOLN
COUNTY**

